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## ORIGINAL

### THE NASO-PHARYNX IN THE ETIOLOGY OF AURAL DISEASE.

BY F. P. EMERSON, M. D., BOSTON MASS.

In our present knowledge of the relation of the nares to the ear we must start with the major premise that the beginning of the respiratory tract is at the nose, and that the ear is a diverticulum or cul-de-sac, whose functional health depends on the integrity of the mucous membrane of the nares and pharynx, of which anatomically it is an off-shoot. If we can assume this to be the case, it is easy to understand how disease of the one may by continuity of structure, intimate nerve supply, or direct injury, affect the other.

Secondary changes may require direct treatment of the ear through the external channel, but by far the most

important, and especially during the acute onset, is the effort to subdue the inflammation, or render permeable the naso-pharynx, and so preserve an equitable pressure on the drum through the ventilation of the Eustachian tube, as well as prevent extension of the inflammatory process by continuity of tissue.

The nares, when we remember its liability to trauma in infancy and later life, its exposure to sudden changes of temperature, to the irritant effects of dust and foreign bodies, its accessory cavities and the peculiar formation of the turbinated bones, its erectile tissue which may suddenly close one cavity or the other, has all the ground-work

necessary to respond to irritation, or to maintain it in a sub-acute form indefinitely; and it is the latter grade of inflammation that, existing for a long time, insidiously begins the more chronic forms of otitis media, and which is so often overlooked until relief is sought for secondary troubles in the ear.

It seems in line with our knowledge of pathology that, given an inflamed larynx, we should see to it that the tissues immediately above are normal, or given pharyngitis, that the nares are not constantly secreting and dropping upon its surface a mechanical and chemical irritant, or given an otitis media that the mucous membrane, in intimate relation with it, is not also morbidly irritated; but the application of such relationship, as far as the treatment of the ear is concerned, is comparatively recent. It now promises to change the prognosis in nearly every disease, acute or chronic, which may affect the middle ear.

With this pathology we look upon nasal catarrh as meaning exactly what it does in relation to any mucous membrane; that is, that such membrane is over-acting, and the hypersecretion is the result of some irritation leading to congestion, cell proliferation and increase of tissue. That is, the irritation has been followed by the various inflammations, acute, sub-acute or chronic, and the tissues in intimate relation with such an inflamed membrane will share in the morbid process.

In our New England climate catarrh has seemingly lost any pathological meaning, but the conviction is growing with many observers that the climate is but an exciting cause, in much the larger number of cases, and that those of our patients who suffer frequently from acute rhinitis, so called, are really undergoing an exacerbation of a sub-acute process, which has been of long standing. The initial deviation from the normal may have been influenza. The eruptive fevers, adenoids, etc., but a large number are attributed to deviations of the septum, spurs and enchondroses, which me-

chanically obstruct the free ingress of air, and that, given a normal pharynx and nares, they are not easily affected by climatic changes.

While the removal of these obstructions and the restoration of the functional activity of the nose by the post operative treatment of the local inflammation has given us the most satisfactory results in the ear, we must be able to trace a clear association between cause and effect, for no part of the anatomy is the seat of more reflexes, or in which we can so often see the local manifestation of a general disease, and overzealous efforts to remove what may be a transient obstruction is as deleterious as judicious treatment is helpful.

An irritable turbinate is often best treated by measures directed to the skin or digestive tract, especially at the age when the angio-neurotic influence is most marked. Small doses of aloin by its derivative effect on the bowel, of Belladonna when the secretion is at fault, of arsenite of iron and strychnine when the nervous influence is impaired, will give local evidence on the inflamed membrane within a week, even in chronic cases. Cool bathing through the general circulation, will act powerfully on the local blood stasis.

Gout, tuberculosis, syphilis and rheumatism are to be constantly borne in mind and general measures instituted instead of local. In fact, we must have clear anatomical ground for interference, and when this is present the most satisfactory results follow mechanical relief, not only in the nose, but to the ear.

#### ACUTE RHINITIS.

An acute inflammation of the nares endangers the ear by the virulence of the inflammatory process with the danger of direct extension, and also by the stenosis which results in a rarefaction of air in the pharynx and middle ear whereby the counter-pressure upon the drum to the external air is removed. Cases of otitis media, it should be impressed as the sequel of acute rhinitis, are usually in old ears,

that have been made vulnerable by a pre-existing catarrhal process in the nose or pharynx, and usually of long standing.

To abort a rhinitis the usual general measures are employed. Foot baths, hot drinks, dover powder cathartics, etc. The second day, however, if our attempts are futile, we must relieve the engorged turbinate if we would save the ear; that is, we must keep the nose open. For this purpose we use an alkaline wash, as a spray, followed every three hours by a spray of liquor petroleum with camphor, menthol, gum benzoin, or similar remedies, with or without cocaine. Should the drum become perforated the amount of discharge and its duration will vary with the cleanliness of the naso-pharynx, and the presence or absence of stenosis in one or both nares.

#### CHRONIC RHINITIS.

We have to do for the most part with the hypertrophic form which we diagnose by the aid of cocaine; and in addition to the hypertrophic turbinate we find either a deviated septum enchondrosis, or spur, or thickened post extremity of the turbinate, or all combined, and the injury to the ear results as an acute rhinitis, only in a more chronic form.

Our indications then are to remove the mechanical obstruction, restore the calibre of the blood vessels and subdue the inflammatory process. The simple mechanical relief is often most striking on the ear.

Case: G. S., aged 25, had scarlet fever when 7 years old. Abscess of drum in left ear. Granulations in the middle ear and peripheral thickening calcarious deposit in right ear. Epilepsy. Enchondrosis in right nares for eighteen months. The hypertrophied turbinate must be reduced enough to relieve the stenosis and no more, for it has a function in the economy of the nose which must be preserved, and in order to accomplish this we must trace back the steps which have led up to the present condition.

Given a narrow nares from whatever cause and the hypertrophied tur-

binate will be on the opposite side, i. e., the extra work will cause an increased determination of blood. This will result in a venous stasis, an increase in the mucous membrane, and also of tissue elements, and lastly a permanent dilation of the blood vessels. The function of such turbinates in health seem to be to furnish a transudation of serum, and this is interfered with by the perverted function as follows: Normally we have a sero-mucous secretion of about a pint of serum, in which the mucous is so intermingled that it passes with the inspired air unconsciously to the lungs; but with the venous stasis the serum is diminished, and the mucous becoming insipidated forms as dry crusts, or is swept into the pharynx and expelled, apparently as an increased secretion. In reality it is always diminished.

Now, to restore the function of the turbinate, we must restore the calibre of the blood vessels, which are permanently dilated, and cleansing washes can have only a palliative influence, chromic acid, galvano-cautery, graduated bougies, removal of spurs, enchondroses, deviated septi, etc. The mechanical relief here, as well as in the removal of adenoids, is often manifest in the ear in the sudden stopping of the discharge before we could have made any impression upon the inflammation. The thickened posterior extremity of the turbinate is best removed by the snare.

#### ATROPHIC RHINITIS.

Atrophic rhinitis affects the ear insidiously, and is the most obstinate in yielding to remedial measures of any of the affections of the naso-pharynx. Its presence is often determined in the naso-pharynx by a simple inspection of the external canal.

#### CERUMEN.

There is one morbid condition which is common in the ear to which there is not sufficient importance connected, and that is cerumen. It is supposed to be in a measure dependent for its formation on the nerve sup-

ply of the ear and pharynx through the glosso-pharyngeal nerve. However this may be, Mackenzie, in a collection of a thousand cases in private practice, found that in 70 per cent. this was one of the early symptoms of grave troubles, beginning in the middle ear, and no one who sees many of these cases will consider the percent-

age high, as it is the rule to find the evidence of a chronic catarrhal process associated with some form of inflammation in the nose or throat. The naso-pharynx then in the etiology of aural disease is an important factor in its causation and furnishes a rational indication for its prevention, control and cure.

### COMMON-SENSE INFANT FEEDING.

BY LOUIS FISCHER, M. D., NEW YORK.

When nature has been unkind, and deprived the infant of its proper food—breast milk; or if the infant's mother is prevented from nursing her offspring through illness—accident (epilepsy), tuberculosis, syphilis, carcinoma; then we must give a substitute which offers nutritious qualities. At the same time we must bear in mind that the digestive functions of an infant cannot equal those of an adult.

#### SUBSTITUTE FEEDING AT BIRTH.

An infant from its birth and until it is two months old should be nursed or fed once every two hours—no oftener. Some children will sleep—from 10 p. m. until 6 a. m.—without feeding; others will require feeding about 2 a. m. The mixture is to consist of the following:

Formula No. 1.—  
Cow's Milk.....200 gm. (or about 7 oz.)  
Water.....600 gm. (or about 20 oz.)  
Milk Sugar.....30 gm. (or 1 oz.)

The above is to be divided into eight parts, so that the quantity for each feeding consists of about 100 gm., or about 3 oz.

Formula No. 2; for a child two to four months old.—  
Cow's Milk.....350 gm. (or about 12 oz.)  
Water.....700 gm. (or about 23 oz.)  
Milk Sugar.....36 gm. (or about 1½ oz.)

One feeding after the infant is two months old every two and one-half hours, and no oftener.

The above quantity is to be divided into seven portions, each portion to consist of 150 gm., or about 5 oz.

Formula No. 3; for a child four to five months old.—  
Cow's Milk.....500 gm. (or about 16 2-3 oz.)  
Water.....500 gm. (or about 16 2-3 oz.)  
Milk Sugar.....40 gm. (or about 1 1-3 oz.)

This quantity is to be divided into six portions, three bottles containing 6 oz. and three 5 oz each.

The infant now requires one bottle of 5 oz., alternating with a bottle containing 6 oz., once every three hours—no oftener.

Formula No. 4; for a child five to nine months old.—  
Cow's Milk.....750 gm. (or about 25 oz.)  
Water.....375 gm. (or about 12½ oz.)  
Milk Sugar.....50 gm. (or about 1 2-3 oz.)

The above quantity is to be divided into six portions, three of 6 oz., and three of 7 oz, each.

The same rule applies here to alternate—once every three hours a six-ounce bottle, following three hours later with a seven ounce bottle.

Formula No. 5; for a child nine to twelve months old.—  
Cow's Milk.....1,125 gm. (or about 37½ oz.)  
Water.....375 gm. (or about 12½ oz.)  
Milk Sugar.....50 gm. (or about 1 2-3 oz.)

We now feed the baby with 8 oz. of the diluted milk at each feeding, once every four hours.

The above quantity is to be divided into six portions, each containing 8 oz.

Formula No. 6; for a child over one year of age.—

Milk Sugar.....59 gm. (or about 1 2-3 oz.)

Cow's Milk.....1,500 gm. (or about 50 oz.)

We now feed but once in four hours—using pure milk, no dilution—giving the baby 8 oz. (one-half pint) at each feeding.

We therefore have, in formula No. 1, about 7 oz. of cow's milk, to be given in twenty-four hours; in formula No. 2, 12 oz. of cow's milk, in twenty-four hours; in formula No. 3, 16 2-3 oz., in twenty-four hours; in formula No. 4, 25 oz., in twenty-four hours; in formula No. 5, 37 1-2 oz., in twenty-four hours; and in formula No. 6, 50 oz. of pure cow's milk, to be given without water, in twenty-four hours.

The above formulas will serve to illustrate the quantities to be given children from birth to the first year, and more especially for those children removed from the city, where modifications of milk cannot be procured. Good, wholesome cow's milk is easily obtained throughout the whole country, for the health departments of the various States exercise a careful supervision of the milk supply. It is safer, of course, to subject each cow to the tuberculin test, but when this is not possible it is safer to use the milk of several cows, rather than feed a baby from the milk of one cow.

#### STERILIZATION.

It is necessary to sterilize everything used in connection with infant feeding. By this I mean that the cow, the pail for the milk, and the immediate surroundings (stable), and by all means the manipulator's hands, must be absolutely clean. This also applies to the bottle, the nipple, and to everything coming in contact with the milk mixture to be used for feeding. Sterilizing really means destroying pathogenic bacteria, and the same applies to the pasteurization of milk foods. It also means the utmost cleanliness and prevention of contamination by the addition of filth in any form, be it through micro-organisms or by the accidental introduction of dirt from the cow's udder or otherwise. We can accomplish the desired results by using good, wholesome milk in the proper dilution, and dividing it into absolutely clean bottles, if we will only take the trouble to impress on the mothers or nurses in charge all these details of the preparation of the in-

fant's food, and also that they require careful attention but once in twenty-four hours. In order to prepare formula No. 1, I would proceed in the following manner: The number of feedings, as above stated, are eight in twenty-four hours; consequently we prepare eight bottles every morning. The bottles are first to be washed with some small shot and warm water, thoroughly rinsed, and turned upside down. If they are new bottles, it is a good plan to give them a good washing; then, turning the bottles upside down, allow the water to drain off. I then insert a large stopper, consisting of absorbent cotton, well into the neck of the bottle, at least one-half or three-fourths of an inch, and take the empty bottles, cotton-stoppered, place them in a large frying-pan, with a small piece of paste-board between each bottle, and bake them in the hot oven about half an hour. This not only dries the bottles thoroughly, but, baking them as it were, sterilizes them. I next dissolve one ounce of sugar in the twenty ounces of water, and add seven ounces of fresh cow's milk. The milk sugar being dissolved and the milk added to the water, I pour this mixture into a saucepan and boil it for about ten minutes, and then divide it among the eight bottles, care being taken to have the bottles warm, else they will crack while the milk is being poured into them. The cotton-stoppers are to be disturbed merely to pour into the bottles the required quantity of the milk mixture, and are immediately replaced; otherwise contamination may be possible. These eight bottles are then to be put in a cool place; an ice chest is preferable, but not contact with the ice. Each bottle is to be warmed immediately before the baby is fed.

#### A WORD ABOUT NIPPLES.

Attention to this portion of the feeding-apparatus is very important, as the cause of sore mouth and tongue and gums can frequently be traced to an infected nipple. The nipples are therefore to be boiled, immediately after being used, in plain water, to which a

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pinch of salt has been added, and allowed to soak in salt water until ready for use. Before putting a nipple on the bottle, a good plan is to soak it for fifteen or twenty minutes in plain sterilized (boiled) water, and when the cotton stopper is removed the nipple should immediately cover the bottle.

After the child has been fed, the bottle should be rinsed, and must be boiled again in water containing a little caustic soda, common washing-soda, before being used again for feeding purposes.

If a child takes only part of one bottle, then the rest must be thrown away and a fresh bottle used for the following feeding.

I wish to emphasize the fact that we must individualize our method of feeding, and remember that while some children merely require food once in three hours, others will require feeding every hour and a-half. The capacity of an infant's stomach at birth is estimated to be about one and a-half ounces. It has been found that successive feeding over this amount may cause vomiting. The usual amount recommended for an infant at birth is about two ounces.

In formula No. 1 the amount of food given for an infant at birth, and up to two months, is about three ounces. This conforms with the views entertained by Professor Baginsky, of Berlin.

After the child is ten weeks old, the amylolytic function develops, and we can then dilute the cow's milk with some of the following mixtures, if the conditions warrant it:

### FLUIDS FOR DILUTION OF MILK IN HAND FEEDING.

Barley water. Take a tablespoonful of pearl barley, ground in a coffee grinder or pound it in an ordinary mortar; add one pint of cold water, and allow it to simmer slowly for about an hour. Strain and add enough water to make one pint.

Oatmeal water. Take a tablespoonful of ordinary coarse oatmeal and add one pint of water. If it is allowed to stand for several hours before using, the oatmeal swells and can be more

easily boiled. It is well to allow the oatmeal to simmer slowly for an hour, and then strain. Add enough water to make one pint.

Farina water. A tablespoonful to a pint of water boiled for ten to twenty minutes, and strained through coarse cheesecloth. Add enough water to make one pint.

Rice water. Take a tablespoonful of rice to a pint of water, and allow it to boil at least three-quarters of an hour or an hour; then strain, and add enough water to make one pint.

Flour ball. A small bag made of cheesecloth is to be filled with wheat flour, and suspended or immersed in a saucepan of water. This is to be boiled from six to twelve hours constantly. The flour becomes agglomerated into a hard mass, and is doughy only on the surface. It is then removed and allowed to dry, and after removal of the crust it is grated, and makes a whitish-yellow powder that is very nutritious. I usually commence feeding with a teaspoonful to ten or twelve tablespoonsfuls of water, with a pinch of salt and sugar, for one feeding. If it agrees well with the child, then I increase the quantity of the flour ball by adding a half-teaspoonful more every three days to the same quantity of water. If this agrees very well and the child seems to assimilate its food, then I usually, after one week of flour-ball feeding, substitute one ounce of cow's milk for one ounce of water, so that the formula would be one teaspoonful of flour ball, four ounces of water; one ounce of cow's milk, pinch of salt, and some lump sugar—for a child nine months old, and older. This formula I have found eminently successful in the treatment of summer diarrhea, but I usually omit the milk.

The guide to the value of any given food is the scales. I insist upon weighing every child at least once a week, and if there is not an increase of at least four to eight ounces in the first three or four months of infant feeding, and at least several ounces weekly (roughly estimated) up to the period of dentition, then it is safer to

change the method of feeding; for if there is no increase in weight, the food certainly will do no good. Another valuable point to bear in mind is the condition of the infant's stools. If the child suffers from severe constipation or diarrhea, or seems to show a severe form of colic, then the food must be changed. This also applies to any and all severe gastric disturbances, such as vomiting, or to the fermenta-

tive conditions, such as eructations or severe colic shortly after feeding. One point to note is that we must individualize and cannot set cast-iron rules, which must adapt themselves for every infant's stomach; and it is important to watch a child's condition, its sleep, its digestion, its stools, its weight, before deciding that the food selected really agrees with it.

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## PROTONUCLEIN IN GENERAL PRACTICE.

BY G. W. SHERMAN, M. D., DETROIT, MICHIGAN.

My first practical experience with protonuclein was on myself. About two and a-half years ago I was taken with a severe attack of acute catarrhal inflammation on the nasal mucous membrane which rapidly extended down the trachea into the bronchi. It began on a Friday morning with an almost incessant sneezing, accompanied by blocking of the nose, fullness in the head and headache, followed later in the day by a thin, copious discharge from the nose, and irritating cough. By 5 o'clock p. m. the same day my headache was severe, my limbs all ached, and on taking my temperature it registered 101 degrees. I had had similar attacks before, none apparently quite so severe, which always run a course of from one to three weeks. I had tried quinine and other remedies without any appreciable benefit, and was a willing subject to try something new. I had a few samples of protonuclein and began to take them ad libitum, starting about 5 o'clock in the evening. By Saturday morning I felt some better and continued taking the preparation through all that day, still ad libitum, and by evening, twenty-four hours after I began its use, felt considerably improved. I continued taking more during Sunday, when my nose cleared up, and the headache, fever, cough, and soreness in my limbs disappeared. By Monday evening, after three days' treatment, I was practically well and attended a meeting of the Detroit Medical and Library Association. Since then I have always prescribed protonuclein in these acute catarrhal affections with the same happy result. Experience has taught me that the proper dose for such cases, in the adult, is from six to twelve grains repeated every two to three hours. The treatment should

be continued with smaller doses for a few days after the disease has disappeared to prevent a relapse.

I have found protonuclein especially useful in the treatment of broncho-pneumonia in infants and children. In these cases I usually give from two to four grains, according to age, repeated every two or three hours, and find that a recovery takes place in from three to five days. I have had remarkable success in treating pneumonia with this preparation and will briefly report two cases:

Case I.—My mother, aged seventy-two years, on April 8, 1897, suffered a severe chill about 9 o'clock in the evening. Two hours later when I first saw her she complained of pain in the right side; was coughing up bloody mucus, and was very uneasy. Her heart had been irregular for some years but now the pulse was 130 and her temperature 103 degrees. Physical examination revealed pneumonia of the right lung. I prescribed two grains of phenacetin and six grains of protonuclein to be repeated every two hours. By 10 o'clock the next day her temperature was 99 3-5 degrees and her pulse 108; the pain in her side was less and she felt much better. The phenacetin was discontinued and the protonuclein continued. By the third day her temperature was normal and she felt so well that in spite of my protests, she was determined to sit up. She coughed up rust-colored sputum for six or seven days but otherwise felt quite well. She has had no trouble with her lungs since.

Case II.—C. G., a male aged sixty-three years, had not felt well for several days, and was taken with a fever the day before I saw him. Patient complained of pain in his right side, and difficulty in breathing. His temperature was 102 3-5 degrees, pulse

110, and the lower portion of his left lung was inflamed. I prescribed six grains of protonuclein and ordered that the dose be repeated every two hours. The next day there was hepatisation of the lower half of the right lung, with a temperature of 102 degrees, and a pulse of 108. The protonuclein was now increased to nine grains, repeated every two hours. The third day the temperature was 101 degrees and the pulse 100. He felt better, and on examination the lung was found to be clearing up. The protonuclein was continued. On the fourth day the temperature was 98 degrees, the pulse 84, patient had enjoyed a night's rest, appetite returned, and lung much improved. The fifth day I found my patient dressed and sitting in a chair. He said he felt well, but I persuaded him to go back to bed, fearing something might happen. I continued the protonuclein four times a day for a few days, when he made a complete recovery.

I have treated ten cases of typhoid fever with protonuclein, all of which made an unusually early recovery, considering the severity of the early symptoms of some cases. I will briefly report a few cases:

I was called to a family in which one of the city physicians had charge of two typhoid fever cases; one, aged twenty years, who had been sick three weeks, and another, aged six years, who was just convalescing after seven weeks' illness. By the time I made my second call, a few days later, two other children of the family had taken sick. A boy seven years of age had not been feeling well for a few days, had no appetite, felt tired, tongue dry and coated, temperature 101 degrees. I gave him four grains of protonuclein every three hours. He began to feel better in a few days, and by the eighth day had entirely recovered. I will leave the members to decide whether this was typhoid fever or not. The other case was a girl aged ten years. She had the usual symptoms of typhoid fever, with a temperature of 102 1-2 degrees. Protonuclein, six grains, and phenacetin, two grains, re-

peated every three hours, were prescribed. The temperature continued rise until the fifth day, when it reached 104 1-5 degrees, pulse 130. The phenacetin was discontinued and the cold pack substituted (which was poorly dispensed) and protonuclein increased to nine grains, repeated every two hours. The temperature from the fifth to the tenth day ranged between 102 1-2 degrees and 104 1-2 degrees, and considerable diarrhea set in which was controlled with bismuth and turpentine emulsion. From the tenth day the temperature gradually declined until the fifteenth day, when it became normal and remained so thereafter. It will be noticed that larger doses of protonuclein were used in this case than in the first case and a more decisive recovery ensued.

I have recently treated two other patients, one aged six years and the other twelve years, both girls, with large doses of protonuclein, in whom the fever run a course almost identical with the above case. The one unusual feature in the three cases was the early appearance of the appetite. About the twelfth or thirteenth day they began to ask for food, and in a few days the desire to take nourishment became so keen that it was difficult to refuse them something more substantial than milk. All these cases lost their hair during convalescence.

Protonuclein has a wonderful effect in maintaining the spirits and vitality of a patient during fever and has no depressing effect, while it reduces the temperature. This is particularly noticeable in typhoid cases. They do not lapse into that stupid condition which is so characteristic of this disease.

When protonuclein is taken in large doses, say ten to fifteen grains, repeated every two or three hours, it produces a deafness and ringing in the ears very similar to that produced by large doses of quinine. In such doses it may also cause an unsteadiness of the nerves and an increased frequency of the heart's action. If this condition is observed during the treatment of a disease it is well to withhold a few doses, when these symptoms will

readily disappear without leaving any bad effects.

I have given protonuclein in scarlet fever with the effect of having the temperature decline and the swelling of the glands of the neck disappear, while the rash is coming out. I have given it with great success in puerperal fever, erysipelas, infected wounds, and in fact, consider it a valuable remedy in all infectious diseases.

Protonuclein also has given marked tonic effects which are particularly noticeable when given in cases of general debility resulting from advanced age. As a tonic it should be given in from six to nine grain doses after meals and at bedtime. In neuras-

thenic cases it is of benefit, restoring a normal tone to the nervous system. I have given it in a few cases of whooping-cough with benefit. I have given it to a few tubercular cases but cannot say that it was followed by especial improvement. In cases wherein the temperature is high I usually prescribe small doses of phenacetin as a palliative remedy to assist in bringing down the temperature until the protonuclein has time to produce results. I consider protonuclein a very valuable addition to our remedies in combating disease, and feel that all who use it in large doses will be gratified with its results.



## EXPERIMENTAL RESEARCHES AND EXPERIENCES CONCERNING INFILTRATION ANÆSTHESIA.

BY DR. H. BRAUN, LECTURER AT THE UNIVERSITY OF LEIPZIG.

Report in outline at the XXVII Congress of the German Surgical Society. Abstracted from the Archiv fur klinische Chirurgie, Vol. 57, No. 2, September, 1898.

This very exhaustive investigation begins with a consideration of the general principles of local anæsthesia, of which the author distinguishes three separate kinds. The anæsthesia may be purely mechanical, as in the infiltration anæsthesia of Dr. Schleich; or it may be partly mechanical and partly due to the paralyzing influence of the material employed, as in the indirect infiltration anæsthesia proposed by Professor Reclus; or, finally, it may be a true regional anæsthesia, due to the specific action of the agent used upon the terminal nerve filaments. The author has experimented with the most varied pharmaceutical and chemical agents in different concentrations; of especial interest, however, are the results that he obtained with the chemical substances specially known as anæsthetics, in which the paralyzing action upon the nerve filaments greatly exceed the irritant effect, or in which the latter is absent altogether. With these substances the author took especial pains to ascertain the minimum amounts that would neutralize the pain of the swelling caused by the injection, and the minimum limit of efficacy of the remedy.

In the course of these experiments a number of the more recently proposed local anæsthetics were investigated in conjunction with Dr. Heinze, including guaiacol, guaiaryl, aneson, orthoform, and Euclidean "A". The author found most of them more or less irritating, and unsuitable for the infiltration anæsthesia, at all events; more especially guaiacol, which was intensely irritating, and insoluble in water, Euclidean "A" was the only one

that effected a practically useful regional anæsthesia; but the author does not think that it is equal to very dilute cocaine solutions either in local anæsthetic effect or in the absence of irritation.

The author did not employ morphine, as recommended by Dr. Schleich, because all solutions of the drug in water or the physiological salt solution, even in the greatest dilutions, have a peculiar local action upon the blood vessels. This is a specific effect of the nature of a paralysis of the vessels in the neighborhood of the site of injection, and is shown by the hyperæmic zone that surrounds it; the exudation of fluid from them. Besides this, there is always with morphine a depression of the general sensibility, even when very minute amounts of the drug are employed. Morphine itself is anything but a local anæsthetic.

The author then investigated cocaine, the lower limit of effective action of which he found to be at 0.005 per cent. (1:20,000), and finally proceeded to Beta-Euclidean, a substance closely related to it. In agreement with Heinze's conclusions, of the absolute quality of Beta-Euclidean and cocaine in their anæsthetic action when used by the infiltration method, Braun states that his cocaine table applies to the newer drug word for word. The limits of its effective action is 0.005 per cent; like cocaine the addition of 0.04 per cent. of the drug masks the pain of the injection; and equal percentage solutions of both drugs have the same freezing point. Even 10 per cent. Beta-Euclidean solutions cause no

pain any more than cocaine; the intensity and duration of the infiltration anaesthesia is the same for solutions of both drugs of equal percentages; only the spread of the anaesthesia beyond the limits of the directly infiltrated zone was slightly lower with a 1 per cent Beta-Eucaine solution. "There can, therefore, be no doubt," the author says, "that cocaine and Beta-Eucaine are the only two substances to be considered in the selection of a drug for infiltration anaesthesia; they alone paralyze without irritation, and without injury to the tissues; and they alone effect an anaesthesia lasting enough for practical purposes even in extreme dilution. Of the advantages of Beta-Eucaine over cocaine and of the toxicities of the two drugs I shall have something to say later."

In a note the author says that tropococaine has some advantages over cocaine in regard to the permanence of its solutions and the possibilities of sterilizing them; but that it has the disadvantages as compared with Beta-Eucaine of lesser local anaesthetic power, greater toxicity, and irritation. The author continues:

"We found that as a substitute for cocaine for the production of a direct infiltration anaesthesia Beta-Eucaine only, which is absolutely equal to it in value, deserves consideration. But Beta-Eucaine is not merely a possible substitute for cocaine; it is absolutely to be preferred to it because it is less poisonous and less specifically irritant, and also because its solutions are permanent and can be boiled as often as is necessary."

The author recommends the following solution for infiltration anaesthesia:

Beta-Eucaine.....1.0 grm. (15 grains.)  
Salt.....0.8 grms. (120 grains.)  
Distilled Water.1,000.0 grms. (32 $\frac{1}{2}$  ounces.)

Its freezing point is 0.535 deg. C. It is osmotically almost indifferent, and in all tissues accessible for direct infiltration it causes an anaesthesia without irritant effects lasting from ten minutes to an hour or more.

"I have experimented with the practical usefulness of the 0.1 per cent. osmotically indifferent Beta-Eucaine so-

lution for months past in a large number of clinical and polyclinical operations. As a rule we only use this one solution. For it was not to be expected that toxic symptoms would be encountered when using a 1 pro mille Beta-Eucaine solution."

Dr. Braun has twice used almost 300 cubic centimeters (10 ounces) of the above solution, once for the extirpation of a large lymph-gland tumor of the neck, and once for a radical operation for hernia at one sitting. More will hardly ever be necessary; yet a dangerous dose was not even approached, for the same amount of a 1 per cent. Beta-Eucaine solution can be injected subcutaneously into a rabbit, absolutely inflating the animal with the fluid, without in any way hurting it. And, since large amounts of the osmotically indifferent fluid can be given by intravenous injection to animals without damage, such an occurrence accidentally to human beings would do no harm. Of Beta-Eucaine 0.3 gram (4 $\frac{1}{2}$  grains) in 10 per cent. solution causes in rabbits a mild and evanescent intoxication; the same amount of cocaine in similar concentration kills the animal in a few minutes. As Vinci has demonstrated, Beta-Eucaine is very much less dangerous than cocaine; it seems to be free from all by-effects, and to exert only a paralyzing action. Concentrated Beta-Eucaine solutions, however, should be as carefully employed as similar ones of cocaine or any other substance which acts as a local paralyzer in great dilutions. Five to ten per cent. Beta-Eucaine solutions injected into the tissues cannot fail occasionally to have undesirable and ill effects, since, like the others, they may occasionally reach the central nervous organs but little diluted. Used in the right way, Beta-Eucaine is an ideal and perfectly safe drug for the infiltration anaesthesia.

"The necessity of diminishing the percentage of Beta-Eucaine in the solution will hardly ever occur; but of course it may be so diminished to 0.05 per cent or even to 0.01 per cent. for the infiltration of less sensitive tis-

sues that are only to be anaesthetized for a short time. An increase of the percentage over 0.1 per cent., granted that a direct infiltration of the tissues is possible at all, will only be required in those rare cases in which greatly inflamed and hyperæmic tissues are to be anaesthetized for a longer time than is possible with the standard solution; as when other procedures than simple, rapidly made incisions are required. In such cases I have always attained my object by an abundant and extensive infiltration of the tissues with the 0.1 per cent. solution."

"I have never seen any interference with the normal course of the resultant wounds when boiled Beta-Eucaine solutions were employed."

"As already mentioned, the spread of the anaesthesia beyond the directly infiltrated tissues is a little slower with Beta-Eucaine than with cocaine, and it is also a little slower in penetrating the nervous twigs. As the specific action of both drugs is absolutely equivalent, these differences must depend upon physical causes, such as differences of diffusibility and of endosmotic equivalent; factors which evidently play a very small part, or none at all, in direct infiltration anaesthesia."

For the last six months the author has employed the osmotically indifferent 0.1 per cent Beta-Eucaine solutions exclusively in minor surgical operations of all kinds. He does not doubt the possibility, however, of doing the largest operations, such as the major amputations, under the infiltration anaesthesia, possibly with the help of a short general narcosis; thus saving the lives of patients who could not stand a prolonged anaesthesia.

He then mentions the fact to which Reclus first called attention (*La cocaine en chirurgie*, Paris, 1895), that cocaine anaesthesia rapidly disappears under the influence of incandescent heat, which destroys the drug. The same occurs with the Eucaine anaesthesia. Thus in haemorrhoidal operations with the thermo-cautery, the anal dilation may show complete in-

sensibility of the parts, and yet the anaesthetic effect disappear when the cautery is used. Excisions of haemorrhoidal tumors, which certainly take a longer time, and all other uncomplicated operations upon the rectum can be done admirably under the infiltration anaesthesia; in fact insensibility lasts much longer than is necessary.

For the opening of sharply limited acute and chronic abscesses the Schleich infiltration method with osmotically indifferent, warmed cocaine or Beta-Eucaine solution is an excellent method. Schleich's original solutions with cocaine are often too painful in these cases; and if they are boiled, as is frequently recommended, they cannot possibly give satisfactory results.

Finally the  $\frac{1}{2}$  per cent. to 1 per cent. cocaine or 1 per cent. Beta-Eucaine solution is far preferable to infiltration anaesthesia for the production of regional anaesthesia by interrupting the conductivity of the nerve trunks of the fingers and toes, as long practiced in the Volkman Clinic. For this purpose it is the ideal and practically important method. Just how far it can compete with the infiltration anaesthesia in other parts of the body is as yet undecided. Of course both solutions require an addition of cooking salt of at least 0.6 per cent. The author's experiments in this direction are not yet concluded.

It is true that in certain cases of limited operative procedure a direct infiltration anaesthesia with small quantities of more concentrated cocaine or Beta-Eucaine solutions possesses manifest advantages over the tense filling up of the tissues with larger quantities of more dilute solutions. But in ordinary cases there is no reason for using concentrated solutions of an anaesthetic when dilute solutions give most excellent results. In any case it is proper not to exceed the maximum dose of 0.1 gram ( $1\frac{1}{4}$  grains) of Beta-Eucaine; in very dilute solutions ( $1:1000$ ) doses of 0.3 gram ( $4\frac{1}{4}$  grains) will do no harm.



## Editorial

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### THE TIMES AND REGISTER FOR 1899.

We shall make a new departure for this journal during 1899, in that we shall publish it monthly instead of semi-monthly, as heretofore; adding to the monthly issue more pages than at present in a single issue. The issues will appear about the middle of each month and will form one volume for the year in place of two. Naturally some of our subscribers may feel disappointed at this announcement, but we believe that they will be more benefitted by the better quality of scientific material we shall be able to present to them.

We have the promise of articles from the foremost medical writers of the country, and with the reports of some of our prominent medical societies will make THE TIMES AND REGISTER an interesting journal for the last year of this century.

THE TIMES AND REGISTER wishes to remind its readers that it always stands ready to serve them in every way it can. Articles of scientific value from subscribers or members of medical societies are earnestly solicited. Cases of unusual interest, although their citation may occupy short space, are of advantage to the general practitioner and are acceptable for its columns.

THE TIMES AND REGISTER trusts that these few changes, which are made so that it can be a better and more effective journal, will be appreciated by its subscribers as an endeavor in their behalf to supply them with such scientific material that will place credence, reliability and trustworthiness in its articles, and prove a practical benefit.

The subscription price has been reduced to one dollar a year in advance.

## THE NEW YORK HOSPITAL SITUATION.

We note with pleasure the reappointment to the staff of visiting surgeons of the Harlem Hospital our old friend and co-laborer, Dr. Thomas H. Manley, of New York.

About three years ago the famous hospital grab was made by the New York medical school. These schools, not satisfied with the lion's share of hospital appointments, contrived

methods by which they were to have the control of such appointments, and to the detriment of the profession at large. This was justly resented by the medical societies of New York, and what followed is only too well known. Two colleges had to reorganize under different names, and henceforth no medical college is to have any voice in the appointments to city hospitals.

## JOHN B. HAMILTON, M. D., LL. D.

We regret to chronicle the death of the illustrious editor of our contemporary, "The Journal of the American Medical Association," which occurred at his home at Elgin, Ill., December 24th ult.

It is scarcely necessary for us to enter into the details of Dr. Hamilton's career as a professional man, inasmuch as his name is a synonym for all that is progressive in medicine and medical treatment. It has been largely by his influence that the "Journal" has arrived at the success of to-day and has

made great strides towards becoming one of the foremost sheets of medical literature in the world. It was his power as an organizer and founder of incipient enterprises that has placed his name above that of many of his contemporaries.

Dr. Hamilton was but 51 years of age, and the cause of his death is stated to have been from hemorrhage, due to perforation of the intestines communicating with a large abscess outside the bowel. He was ill but about a month.

## ANATOMICAL DEVIATIONS IN THEIR RELATION TO OPERATIVE SURGERY.

In the recent past it was regarded ample for the average student to have made a dissection of three parts, during the course of which, as difficulties appeared in his way, the demonstrator of anatomy came to his assistance, and set him right again. Therefore, a painstaking, diligent student, in the course of his three terms, acquired a fair knowledge of normal anatomy, of the relations of structures on the cadavers. He might, also, coming perhaps from the hands of a good guide, be well crammed with the details of minute anatomy, so armed with practical knowledge that it would seem he might be safely trusted to commence

the career of operative surgery. But, to the chagrin and confusion of the novice, in his very first laparotomy he finds many of his "anatomical landmarks" fallacious guides, for his surface incision brought him far of the mark; possibly in consequence thereof a serious mistake was committed, and a life lost.

The writer first realized the importance of this subject some years ago, when he found that the adult small intestine varied from ten to thirty feet in length; when he cut down, over "McBurney's Point" for the appendix, there was no such organ in evidence until he lifted up the cæcum.

and found it snugly coiled up under it. Again he was befogged in a laparotomy for renal lesion. A young man had been violently kicked over the abdomen by a horse. Copious haematuriae pointed to oval laceration. On opening the abdomen the left kidney was found wanting. Exploring the right side, the kidney here was not found either. In fact there were no lumbar kidneys, but a large, ruptured horse-shoe kidney astride the sacrum.

Visereal ectopia and deviations in the abdomen are so common as to constitute one of the greatest difficulties we have to deal with in operations here.

Again we often come to grief in arterial ligation; especially in the cervical areas, where position and relation are so devious.

It has, therefore, appeared appropri-

ate that a student once having made a regular course of dissection should again be led back to review his subject and study critically the deviations.

It seems remarkable that in this great book-making age some enterprising American anatomist does not provide us with a good treatise on anatomical deviations and assymmetry of development.

Such a work is very much needed, and would have a large sale. However, in any event, it cannot be too strongly impressed on the student that if he would master the structural composition of the body, as it relates to the clinical side of medicine, he must take every possible advantage of dissection, and always when he makes autopsies avail himself of the opportunities to widen his knowledge of the anatomy of the cavities.

#### THE PHONENDOSCOPE.

The above is the title of a practical treatise on this new instrument, which has been sent to our exchange table. It is a compilation of a series of lectures delivered by Aurelio Bianchi, M. D., which has been translated into the English by A. George Baker, M. D. This instrument, which is so fast taking the place of the stethoscope in the examination of the organs of the body, is coming into universal use; and this book, written as it was by one of the inventors of the instrument, is the

most practical treatise which has yet been written. The instrument with all its parts is carefully explained, and the method by which every organ of the body can be most accurately examined. The instrument is such that it can be used by two different parties in examining the same individual. Two different implements can be used by the same person in examining different parts of the chest, or two different chests at the same time, thus comparing the normal with the pathological.



## Book Reviews

**THE SEXUAL INSTINCT.** Its Use and Dangers as Affecting Heredity and Morals. Essentials to the Welfare of the Individual and the Future of the Race. By James Foster Scott, B. A., M. D., C. M., Washington, D. C. Published by E. B. Treat & Co., 241 West Twenty-third street, New York. Price \$2.00.

This book, designed more especially for the non-professional, has in it an element of extreme value to all. Too few physicians are inclined to impress upon their patients the imperative necessity of clean heredity. The social vices of large cities are so great and their indirect results so devastating to the human race that the "plain talk" of Dr. Scott will appeal directly to the doctor, as it does to the layman.

The book is divided into 13 chapters, with the following subjects: Chapter I.—Introductory—The Sexual Instinct and the Importance of a Just Appreciation of Its Influence.

Chapter II—Physiology of the Sexual Life.

Chapter III—A Proper Calculation of the Consequences of Impurity from the Personal Standpoint. Great happiness principle—Two classes of men, the pure and the impure—Chastity a battle royal—Pure girls often degraded by marriage—Fornicators almost sure to become diseased—Venereal diseases exceedingly grave—Venereal patients are poisonous animals—Fallen men the enemies of society—Purity of life the greatest incentive to marriage—Health not dependent on sexual indulgence—Reproductive glands do not atrophy from disuse—All reputable scientists advocate purity and self-control—Sexual diseases practically never seen in the chaste—Importance of heredity—The progeny of the impure—Reform easier for men than for women.

Chapter IV—Woman, and Unmanliness of Degrading Her. Why men venerate their mothers—Woman's and man's strength contrasted—Woman's sexual feeling strong, while sensuality is weak in her—Man the glory and the shame of the world—Sexual feelings exercise a directive power over most human activities—Woman the most exalted of created beings—Woman shows the marks of sin permanently—Woman's true sphere—Her safety lies in higher education—Age of consent—Brutish men the excreta of society and consequently they should be set apart.

Chapter V—Some of the Influences Which Incite to Sexual Immorality. Abuse of spirituous liquors—Dancing is a secondary sexual love feast—"Girl of the period" over-dressed—Feminine modesty put to severe strain in ball room—The modern stage—Modern tendency erotic and sensuous—The nude and the vulgar in art—Legitimate art elevating—Nature and true art not at variance—Modern art tending to vulgarity.

Chapter VI—Prostitution and the Influences that Lead a Woman into Such a Life. Nature of the harlot's work—Penalties all heaped on her—The fallen man more to blame.

Chapter VII—The Regulation of Prostitution. Some countries enter into the business—Object of regulation is to protect society, but the exact opposite maintains—Three methods of dealing with prostitution—Let-alone system—Regulation system—Representative system.

Chapter VIII.—Criminal Abortion. Illegitimacy or criminal abortion the goal of lust—Foeticide equivalent to murder—No time in a woman's sexual life when she may not be impregnated—Physiology of reproduction and development—Conception and the development of the fetus—Life begins at mo-

ment of impregnation—Definition of abortion—Evil work of the press in advertising charlatans and nostrums—Therapeutic, or justifiable abortion—The abortionist described—Risks and dangers of the act—Severe hemorrhage and blood poisoning the rule—The abortionist's methods—The glories of maternity—Women stand at the summit of nature—Sexual intercourse the highest expression of love—Criminal abortion the most unnatural of all crimes.

Chapter IX—Gonorrhea. Gonorrhea a serious malady—A prevalent and formidable disease—Gonorrhea in women—Acute and chronic forms—Invasion of uterus, Fallopian tubes, ovaries and peritoneum—Sterility from gonorrhea—Women infected innocently by reformed husbands who were never cured, or by profligate husbands—Complications of gonorrhea common to both sexes.

Chapter X—Chancroid.

Chapter XI—Syphilis.

Chapter XII—Onanism. Definition—Predisposing causes—Varieties—Results—Injury to body and mind—Evil effects chiefly expended on the nervous system.

Chapter XIII—The Perversions. Definition—Sexually over-stimulated ancestors and evil environment largely the cause—Erotic fetishism—A purely psychological phenomenon—Importance of impressions received at puberty—Various fetishes—Sadism—Desire to inflict cruelty—Lust murder—Mutilation and defilement of corpses—Injury to women—Sadistic acts on animals—Sadism in women—Masochism—Desire for abuse and humiliation—Masochism in women—Sexual bondage—Contrary sexual instinct—Pederasty—Incest—Other Gross acts punishable by law.

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BLACKBOARD HEADING USED IN THE LECTURES ON SURGERY, BY  
ROBERT F. WEIR, M. D., PROFESSOR OF SURGERY IN THE COL-  
LEGE OF PHYSICIANS AND SURGEONS OF COLUMBIA UNIVERSITY.

Edited by Drs. A. L. Wolbarst and G. A. Saxe, New York, 1898.

This little book will interest all the pupils of the master of surgery, of whose teaching they are an exponent. As a guide to the study of surgery, it is both convenient and useful. The book contains a series of tables on general and regional surgery, which Dr. Weir has been in the habit of placing on the black-board before his class. The book is carefully edited and printed.

The chapter on Antisepsis Tumors, Genito-Urinary Diseases and Injuries of the Brain, are especially complete. We note that no antiseptic action is credited to Boric Acid.

Formaldehyde and the Silver Salts

are given prominent places among the antisepsics. Iodoform Ointment is said to be inert. For disinfecting the hands, Dr. Weir advocates the use of Chlorine in nascent state by a mixture of washing soda and bleaching powder.

Under refracture for vicious union, the term "dysmorphosteodioclasis" is used, probably as a joke.

The rules for trephining are very complete and well arranged. Under subhyoid bursitis we notice an original method of excision. The bursa is filled with melted paraffin, and the latter allowed to get hard, then the paraffin is excised with the bursal sac.





### GROWING PAINS.

Dr. Bennie says that "growing-pains" have been diagnosticated by him less frequently as the years rolled by, and that cases which have been classified together under this name are the following: Myalgia from fatigue; this is the commonest variety, usually about the knees and ankles after unusual exertion. They are probably due to autoinfection brought about by excessive production of effete materials in the blood and their inefficient elimination. Elevating the limbs and rubbing with the palm of the hand in the direction toward the heart, relieving venous stasis and facilitating a supply of healthy blood to the exhausted muscles, promptly quiets the pain. Rheumatism: This is the second, if not first, in frequency. There are slight pains in the joints, little or no swelling, and very mild fever, and hence the true cause is recognized; but rheumatic endocarditis frequently develops in these cases. Diseases of joints and bones of the lower extremities: Cases of hip-joint disease and superlative epiphysitis of the upper end of the fibula, diagnosed by the laity and allowed to go on untreated, are related under this heading. Fevers, accompanied by pains in the limbs, in one instance proving to be the inception of typhoid fever, constitute this class. Adenitis: Here, again, the mother still supposes that the lad of sixteen years suffered from "growing-pains," but he was treated for gonorrhœa and a sympathetic bubo. The malady "growing-pains," with its concomitant growing-fever, like its congener, disorders the dentition, as a separate morbid entity exists principally as an article of faith. The complaint still maintains, however, a strong hold on the lay mind,

and forms an extremely common lay diagnosis, which is often the cause of much suffering, and even death.

—Archives of Pediatrics.

### BOLOGNINI'S SIGN IN MEASLES.

Dr. Bolognini has described as an early symptom in measles a peculiar rubbing or crackling sensation imparted to the flat hand placed upon the abdomen of the patient, whose legs are held fully extended. With the abdominal muscles thus on the stretch and the flat hands on either side of the abdomen, gradual, gentle, yet increasing pressure is made with the tips of the middle three fingers, alternately upon the right and left sides. The light rubbing or grating sensation is ascribed by Dr. Bolognini to the rubbing together of the visceral and parietal peritonei, which, he thinks, are the seat of an erythematous eruption, similar to that which exists on the skin at a later date. Sometimes this symptom is localized in certain areas of the abdomen, at other times it is general; the symptom is found early, before the development of the cutaneous eruption, and exists for some time. Recently Dr. A. Köppen-Norden (Munchener med. Wochenschrift, 1898, S. 897) had an opportunity to study this symptom in an epidemic of measles affecting 316 children. He agrees with Dr. Bolognini in that the symptom is frequently present, but believes the sensation of crepitation imparted to the fingers is due to minute particles of air in the intestine itself. The intestine, he claims, is the seat of a catarrhal inflammation, and contains more or less fluid and air bubbles. He says that the crepitant sensation

passes gradually into a wave of larger calibre and finally assumes the character of ordinary intestinal rumbling. Many of the children examined by the writer had diarrhoea.

L. F.

#### INFANTILE PARALYSIS.

In the last number of the *Neurologisches Centralblatt* an abstract of a very interesting paper by Professor Medin is given, the original having appeared in a Swedish paper. In an epidemic in Stockholm in 1887 the writer had collected 43 cases, and between 1888 and 1894 29 sporadic cases, and again in an epidemic in 1895 21 cases. The immediate cause of the disease he believes to be a poison, but infection from one patient to another, although possible, is very rare. No particular conditions can be regarded as predisposing, although children under four years of age seem to be most affected, and both epidemics occurred in late summer. Most cases began with fever and sickness, pain and sensitiveness of the body, rarely convulsions, but occasionally sighing and crying out. Of 50 cases, the legs were affected in 45, and in 14 cases the face or the external rectus or muscles supplied by the third nerve were affected. Six cases of acute polyneuritis were observed in the 1887 epidemic, but only two in that of 1895. In that disease the onset was sudden, with high temperature, and the pain was severe; sometimes there was cutaneous hyperaesthesia, and in one case this followed anaesthesia in the lower limbs. Poliomyelitis, affecting the nuclei in the bulb and pons was found in several cases and a lesion in the cells in this region in several cases was demonstrated, practically identically with that of the anterior horn cells. Professor Medin has also seen polioencephalitis occur in the same epidemic, indicating an apparent identity of the poisons of the two diseases. The prognosis is worse if the lumbar cord is affected, less if the cervical is the part affected, and is more favorable in polyneuritis than in

polio-myelitis. The conditions found post-mortem were the signs of general infection proceeding from blood-vessels and causing acute inflammation in the anterior horn, with consequent degeneration of the ganglion cells and of the nerve fibres. Prof. Medin regards the disease as an independent peculiar one, and separates from infantile paralysis all paralytic conditions which occur in association with other infective processes.

—*Lancet.*

#### BROMOFORM POISONING IN A CASE OF PERTUSSIS IN AN INFANT: RECOVERY.

S. B., 2 1-2 years old, was seen by me in the children's department of the German Poliklinik on November 4, 1896, with the following history:

The child has been coughing some time; the cough appears to be very painful, for the child always cries after each attack; the attacks are very violent, and usually end in vomiting. The face during the attack is very red or bluish red; these attacks are more frequent, and also more violent during the night, and the mother believes that the child coughs less in the open air when going through the street. Excepting a slight attack of summer complaint, there has been no previous illness. The child was nursed at the breast, and there is nothing abnormal visible.

General Inspection.—The head is square; fontanelle closed; no evidence of cranio-tabes; the eyes bulge slightly; exophthalmus; a slight oedema of the eyelids; face looks puffy; color of the skin looks grayish; the tongue is slightly furred; throat shows a very reddened congestion of pharynx, left tonsil is enlarged, right tonsil also, and the uvula is elongated; submaxillary glands enlarged; opistaxis has existed after a very violent coughing paroxysm; the nose presents nothing abnormal, i. e., polypi which might be held directly accountable for this condition. Dentition has been quite regular; a few carious teeth exist. The examination of thorax and abdomen shows the lung quite normal; some

moist crepitant râles heard at the apices of both left and right lungs, also loud sonorous râles. Pulse is accelerated, fairly good and regular; the temperature was 99 degrees F. in the rectum; respiration did not appear to be abnormal.

The diagnosis of pertussis and bronchitis in a rachitic child was made. I prescribed bromoform, and it was given in a solution containing:

Bromoform .....	gtt. xl.
Spr. cort. aurant .....	30.0
Alcohol .....	10.0
Aqua q. s. ad.....	60.0
M.	

The child was ordered a teaspoonful of this mixture every hour. The medicine was given regularly, and a few days later he was brought to me in the dispensary in a condition of stupor. The child could not be roused, the pulse was soft, intermittent, about 120 in a minute, the upper extremities were warm, the lower extremities were cold, face and ears were covered with an erythematous eruption, the corneal reflexes were partially absent, and the pupils did not react; the temperature in the rectum was 99 degrees F.

The child was in a condition of the deepest narcosis; the respiration was slow; slight snoring was audible. The child was given continued hypodermic stimulation by Dr. Emil Joel and Dr. Kahn, who also faithfully performed artificial respiration. The child was given mustard footbath and faradization, and also coffee and brandy per mouth; the child was reported well the following day.

**Quantity of Bromoform.**—As the specific gravity of bromoform is greater than that of the other ingredients in the mixture, it naturally sinks to the bottom of the bottle, and the mixture, in order that it be properly given, should have been thoroughly shaken before administering it. This not having been done, the bromoform precipitated, and must have been given in one dose in the last teaspoonful contained in the bottle, and the child must have received nearly all the

40 drops at one time. I have used bromoform since 1890, and this is the first case of bromoform toxæmia that I have seen. It impressed upon me the importance of prescribing this drug in its pure form, without the addition of any dilutent. I usually order it in a dark bottle to protect it from the light, and well stoppered, preferably a glass-stoppered bottle. The child recovered.

My method of prescribing it is to give:

Bromoform pure.

Tinc. Cardam. Comp.

Equal parts.

Dose—5 to 10 drops in water three times a day.

187 Second Avenue.

#### APHONIA.

Prof. Albert Abrams, of San Francisco, under heading of "Note on a Simple Method of Curing Aphonia," says:

"For the relief of aphonia and dysphonia of laryngitis, no method equals the following: First mark approximately with a pencil on either side of the neck the point in the thyrohyoid membrane where the internal laryngeal branch of the superior laryngeal, the nerve of sensation to the larynx, passes into the latter organ. Over the points marked with the pencil freeze with chloride of methyl or a spray of methyl or a spray of rhigolene. Freezing must be thorough. The relief in most instances is almost instantaneous, and phonation, which was before difficult or painful, can be performed with perfect freedom. The relief thus afforded is of signal advantage to many professionals. In some instances the relief is of short duration only, in which cases freezing must be done again or several times.

I have used this relatively painless method for at least six years, and the results in most instances have been phenomenal. This same method may be employed with advantage in neuroses of the larynx, like laryngismus stridulus, spastic aphonia, and in the laryngeal crisis of tabes dorsalis. The

use of any therapeutic agent based on empiricism alone will yield clinical results wholly at variance with strict scientific inquiry. I have therefore endeavored by theory and experimentation to evolve the rationale of congelation as a therapeutic agent. The following hypotheses are presented:

1. Freezing may act as a counter-irritant and the results achieved may be due to local or reflex action.
2. Freezing may act by producing physical changes in the underlying structures.
3. It may act as a shock.

The first hypothesis may be contravened in part on the assumption that freezing, unlike counter-irritation, is immediately in its action, of greater potency, and followed by slighter reaction. We know, however, that the application of cold to the superficies of the body induces through the automatism of reflex action contraction of the arterioles, especially in parts subject to inflammation, thus materially inhibiting the process of inflammation. The degree of cold secured by the usual methods of freezing is neither of sufficient intensity nor duration to warrant such a postulate. The reduction of temperature, as I have determined by experiment, is never sufficiently great to firmly sustain the first hypothesis. By reinforced freezing, which I have described elsewhere, a reduction of tem-

perature to the freezing point may be secured.

The second hypothesis may be disposed of by briefly citing the results of certain experiments. If the skin over the large nerves of rabbits is frozen daily and the nerves afterwards examined, no degenerative changes in the latter can be demonstrated, and it is only after freezing is carried to an inordinate degree and repetition, unlike its clinical application, that any degenerative nerve changes can be demonstrated; and this degeneration, I have observed, involves not only the nerves, but likewise the superimposed tissues.

I am inclined to accept the final hypothesis as the most probable, viz., that freezing acts as a shock, inhibiting the nerve functions for a variable period. While conductivity is an expression of pathological nerve activity, pain or disturbed function is an expression of pathological nerve activity. The inhibition of the activity of a pathological nerve expresses the ideal attainment of therapeusis. This is secured remotely by analgesic or directly by local medication. The latter is the more rational method and can be attained by freezing, which acting like a shock, inhibits the functions of the nerve, thereby putting it in a condition to rest."

—*Therapeutic Gazette*, December, 1898.





## CONCERNING SILVER AND SILVER SALTS.

BY DR. G. WOLFROM, MAGDEBURG-BUCKAU.

Abstract of paper read before the Magdeburg Medical Society, April 28th, 1898; *Allgemeine Medicinische Central-Zeitung*, No. 42, 1898.

The author confirms the result obtained by Credé with the Citrate and the Lactate of Silver, and records his opinion of their decided superiority to other remedies as external disinfectants, on account of the energy and depth of their action and their freedom from irritant and destructive effects. He praises the citrate, more especially because of its slow solubility, the depth and duration of its action, and its absolute non-poisonousness and non-causticity. He recommends a few poignant cases of mastoid operations, severe burns, injuries to joints, and complicated fractures, in which the saturated solution of the Citrate of Silver and drainage with the Citrate of Silver gauze rendered him almost excellent service.

In the second part of his paper the author considers the important subject of the Soluble Metallic Silver recently introduced by Credé, and its therapeutic value in septicæmia (blood poisoning). He demonstrates the remarkable physical properties of this soluble metal, and of the preparations made of the Argentum Colloidale, more especially the silver salve, the Unguentum Credé. He shows by means of microscopic illustrations that the Argentum Colloidale, both in watery solution and in salve form, is a suspension of the very finest molecular particles, and is in a condition most suitable for reception into the capillaries and the tissues.

Wolfrom's experience in the treatment of four cases, one of which was himself, is of very great importance in deciding the indications for the use of the Soluble Metallic Silver in the treatment of acute and chronic septic infection, and in estimating the value of the Unguentum Credé from the standpoint of the practitioner. Wolfrom had suffered for five years from an extremely obstinate and increasing furunculosis, occurring mostly in the autumn. From the beginning of December, 1897, to the middle of January, 1898, Dr. Martin, of Buckau, had made at least forty incisions of the furunculus nodules. In despair Wolfrom at length began daily washing of the skin with Citrate of Silver solution and inunctions of the inflamed areas, after washing, with 10 per cent. of Citrate of Silver-Vasogen. The furuncles retrogressed for a time, but reappeared at once when the treatment was stopped. He then applied to Credé for help, who advised him to try the Silver Salve.

On March 22d, 1898, there were three developing abscesses on the coccyx to the right of the nates and on the right thigh, with headache as the expression of the general infection. On the same evening Wolfrom made an inunction of 3 grams (45 grains) of Unguentum Credé for 20 to 25 minutes, using the left, healthy side of the body for the purpose. Its effect was that even on the day following the first inunction his sensorium was clear. After the second inunction the indurations around the softened abscesses melted away, and the hard lumps in the subcutaneous cellular tissue began to disappear. After taking seven inunctions alto-

gether, Wolfrom two months later was entirely free from furuncles.

The author obtained equally favorable results in two other cases of furunculosis and one of phlegmon of the leg.

In conclusion Wolfrom reviews the indications for the use of the Silver Salve in the various acute and chronic pathological conditions caused by septic infection. He lays stress upon the necessity of beginning the silver treatment of the general system early, before the advent of dangerous secondary symptoms and toxic effects. He is firmly convinced that the soluble Silver will influence fresh cases of septicaemia, as well as chronic ones and furunculosis, when no complications are present, most favorably. Often, indeed, it will effect a rapid and most astonishing cure. He therefore most urgently recommends the use of the Credé method in suitable septicaemic cases to his colleagues.

#### METABOLISM IN STOMACH AFFECTIONS.

Joslin, of Ewald's clinic, has investigated metabolism in a case of gastric ulcer, or extensive resection of the stomach, and of gastro-jejunostomy when meat peptone and eucain were added to a diet of known constituent. (a) Gastric ulcer. The investigation covered five periods: (1) The preliminary; (2) when 30 g. of peptone were added; (3) when the preliminary diet was again given; (4) when 30.5 g. eucain were added; and (5) when a simple diet chosen by the patient was given. The nitrogen balance increased considerably during the peptone and eucain periods. This increase was not due to any excess of food taken during the first period. In the fifth period the amount of nitrogen in the urine fell, while that in the faeces increased. This confirms Ewald's view that the diet must not be left to the patient when an equality in metabolism is required. A considerable excess of nitrogen in the form of peptone and eucain were provided in the

second and fourth periods, and the favorable absorption of peptone and eucain was evident. The value of meat peptone and eucain for the purpose of providing abundant nutriment in small volume has been often shown. (b) In the second case (in a woman aged 45) two-thirds of the stomach had been resected for carcinoma, and a gastro-jejunostomy done. Two periods were investigated. In the second the nitrogen represented by 210 g. of oatmeal ("grits") was replaced by 55.44 g. of meat peptone; 1.93 g. more nitrogen was given in the second period, due to the increased quantity of bread. In the second period the amount of nitrogen in the urine was almost equal to that of the first, though there were 716 calories less provided. The absorption of nitrogen was better during the peptone period. The chief change lay in the nitrogen and fat loss. In place of 6 per cent. seen in the healthy individual the nitrogen loss rose to 12.66 per cent. in the first period, and 9.71 in the second. The loss of fat in the stools rose to 18.71 per cent. (c) The metabolism in the case of gastro-enterostomy was investigated before and after the operation. In place of a nitrogen loss of 3.6 per cent. before the operation it became 19.85 per cent., and the loss of fat rose to 31.21 per cent., although the calories supplied remained about the same. The patient was losing weight. Resection of the stomach and gastro-enterostomy influence gastro-intestinal digestion considerably. The effect on fat digestion is remarkable. The deficient absorption of fat was due to gastric resection in the first case, and to the carcinoma in both cases. Both patients were feeling well, but the case of gastro-enterostomy subsequently died, whereas the case of resection of the stomach was seen later greatly improved. In this last-named case albuminous digestion represented 60 per cent. before the operation, and there was combined but no free hydrochloric acid, whereas in the other there was no hydrochloric acid, and much lactic acid was developed. The

author then refers to two further cases of gastric ulcer, in which peptone was given in clyster, but the investigations were interrupted.

—*Berl. klin. Woch.*, Nov. 29th, 1897.

#### HYSTERICAL SPASMS OF THE OESOPHAGUS IN A CHILD.

Cattaneo reports the case of a child, aged 12, who for the last five years had suffered from apparent oesophageal stricture. The symptoms set in suddenly after swallowing a glass marble. The child ate certain solids without much trouble, and all solid food was managed more easily than liquid, and warm liquids better than cold. Constant vomiting followed the attempt to swallow. There was no history of injury likely to induce any true strictures, and a sound was passed quite easily and revealed no constriction. The child presented other facts in favor of hysteria—for example, restricted visual field, absence of conjunctival reflex, dullness of pharyngeal reflex, and a certain amount of insensibility to pain. Hyperidrosis was also noticed. The treatment carried on during the five years had availed little, so the author passed a sound, and gave the patient to understand that he had found a stricture, which would be cured in eight days if she had the sound passed regularly each day. This prediction was happily fulfilled—and, indeed, in less than eight days the patient was cured.

—*Gazz. degli Osped.*, Sep. 4th, 1898.

#### DYSENTERIC ARTHRITIS.

Remlinger has described a series of cases of dysentery which occurred in military practice in Tunis. Several of these cases were accompanied by pain and swelling of some of the joints, more particularly of the knee. These cases were free from any rheumatic history previous to being affected with dysentery. In each instance there was a large amount of effusion which required evacuation, and then it was found to be strongly fibrinous. The writer, as head of the

military bacteriological department, made careful investigations of the fluid with the view to ascertaining the possible bacteriological origin. In no instance could any organism, amœbic or otherwise be found. The author looks upon these cases as forming a sort of secondary arthritic affection occurring in the course of dysentery, and possibly due to toxic infection. There are two varieties of the condition—a dry form in which there is polyarticular pain affecting different joints with extreme rapidity, and unaccompanied by effusion; the second which is effusive in character and much more rebellious to treatment. These forms may be combined in the same individual. The prognosis is good so far as may be gathered from the writer's cases, more particularly the dry form. When effusion occurs it is generally necessary to aspirate the joints. Antipyrin given internally allays pain.

—*Revue de Med.*, Sep. 10th, 1898.

#### PARAPLEGIA BRACHIALIS POLYNEURITICA.

Menz relates a case in a man aged 42 who had suffered from phthisis for four years. Suddenly one night he was seized with severe pain in one arm, which rapidly became almost completely paralyzed. Later the other arm gradually became affected. On admission there were signs of phthisis at both apices. The examination of the arms revealed disease of the suprascapular, anterior thoracic subscapular, and axillary nerves. The onset of the paralysis, the intense irritation symptoms at the commencement, the disturbance of sensation still present, the rapid improvement at least in the muscles of the left upper arm, show that the disease was a peripheral neurosis. Many of the muscles still presented the reaction of degeneration. These bilateral partial paralyses of the brachial plexus are very rare. The two cases recorded by Bernhardt and Remak respectively were traumatic in character, at least in Bernhardt's case. The

other two cases recorded respectively by Heyse and Krafft-Ebing, as well as the author's case, occurred in connection with pulmonary disease. Heyse's case supervened on phthisis, whereas that of Krafft-Ebing followed upon pneumonia. The case recently reported by Lesznsky also occurred in the course of acute pneumonia.

—Berl. klin. Woch., June 13th, 1898.

### THE UNITY OF SYPHILITIC LESIONS.

In a valuable address before the Ontario Medical Association at Toronto last June on the stages and forms of syphilis, with more especial reference to the hepatic manifestations of the disease, Dr. J. G. Adami, of McGill University, makes some timely and useful remarks in regard to the unity of syphilitic lesions.

Dr. Adami conceives that there is no more firmly fixed idea in the whole of medicine than that of the absolute existence of three different stages and forms of syphilis—a primary, secondary and tertiary stage. But without desiring to pose as a revolutionist or an iconoclast, and acknowledging broadly and generally the utility of these divisions, he believes there is danger in these fixed ideas in medicine, as in other things, and that an occasional challenge of that which is accepted of all men as fixed and assured is of benefit. Notwithstanding the work of Wagner 30 years ago, the protest of Nevins Hyde and the writings of others, the profession in general is still too imbued with a firmly planted idea of the sharp demarcation of the different forms and stages of syphilis.

Adami takes the ground at the outset that it is not even necessary to have any recognizable first stage or cutaneous chancre. Cases are not rare in which there is a complete lack of evidence of any superficial primary infection. He then lays down the following postulates:

(1) That from analogy, as from clinical history and absence of any indications of the same, in sundry cases there may be an absence of the

primary cutaneous or epithelial manifestations of syphilis.

(2) That individuals may fail to present either primary or secondary symptoms that are recognizable, and yet eventually develop definite tertiary lesions of the disease.

(3) That where the subject is relatively insusceptible it is possible that the disease may be limited to the primary cutaneous manifestation not followed by secondary lesions.

(4) That as with tuberculosis so with syphilis, the congenital form of the disease begins at what may be termed the secondary stage of the acquired disease, that is, the stage of general dissemination of the virus through the organism.

With reference to the relationship between secondary and tertiary syphilis Adami holds that the lesions occurring in the congenital and the acquired disease are identical and brought about by the same process or processes.

That whether we have to deal with the disease in the secondary or in the tertiary stage, the same processes are at work. That if we except those cases as truly tertiary in which we have to deal merely with the fibroid remains of obsolete gummatous, and, again, those cases in which there is perihepatitis (which perihepatitis appears to be a complication rather than the genuine and direct result of syphilis), then we are bound to admit that the study of the liver alone would indicate that no sharp boundary line can be made out between secondary and tertiary syphilis. Neither can such a boundary be made out between secondary and tertiary tuberculosis.

While all must admit the utility of recognizing these two stages, from an anatomical and histological standpoint one is forced to acknowledge that progressive syphilis is characterized by the same succession of phenomena, whether it be studied but a few months or long years after the primary infection. Anatomically and histologically there is no valid distinction to be drawn between secondary and tertiary syphilis.

Is not such a conclusion wholly at variance with clinical opinion and

experience? Upon the face of it, it is; but if the subject be looked into carefully he thinks that such a view will reconcile not a few of the divergencies existing among syphilitologists. There are those (and they are the majority) who state that tertiary syphilis is non-infectious, and those who bring forward clear examples of the production of infection five or ten years after primary inoculation of the disease. This difference can be reconciled if we agree upon the following points:

(1) That nowadays, under proper treatment, syphilis, if not a self-limiting disease, is at least a disease which can be healed; so that many of the lesions recognized as being tertiary syphilis are truly the indications of the old healed syphilis, and not signs of progressive or latent disease.

(2) If the disease has not completely died out and remains latent the resistance of the tissues of the organism is such that in the majority of cases, if it does not tend to light up again, there is so considerable a local reaction that the infection, and, consequently, the spread of the process tend to remain strictly localized, and the germs (which are probably of bacillary nature) do not become disseminated through the blood. Thus neither the blood nor the secretions contain the virus.

—The Boston Medical and Surgical Journal.

#### TROPHIC CHANGES IN GENERAL PARALYSIS.

Colobian has published a very complete series of statistics on the various trophic alterations in general paralysis. General anesthesia and sometimes edema were noticed somewhat late in the cases. Caries and dropping out of the teeth especially of the lower incisors, somewhat similar to that observed in tabes, were present. Aural hematoma, as is of course well known, occurred with great frequency. Erythema, pemphigus, zona and other bullous eruptions, alopecia and ichthyosis were all observed. The author shows that zona seems to be invariably painless, and should therefore be watched for. Perforating ulcer is by no means rare, and bedsores, trophic altera-

tions of the nails, accompanied by brown coloration and atrophy, have been noted. The bones become very brittle. There may be increase of saliva and urine; polyuria, glycosuria and albuminuria are well-known symptoms. Bedsores may occur extremely readily, even in situation in which there has been no pressure. Finally, the writer points out that gastric digestion seems to be greatly increased in some cases, so that patients are liable to eat large quantities of food, and even to digest it.

Arch. de Neurol., 1898.

#### GOUT.

Schmoll discusses the theory of this disease. He says that one point in Garrod's views as regards gout remains true, and that is the richness of the blood in uric acid during the attack. The necroses of tissue in which uric acid crystals are deposited constitute a new fact discovered by Ebstein. Some authors have shown that gouty patients are unable to maintain a nitrogenous equilibrium in spite of a sufficient supply of calories and an adequate nitrogenous diet. It is not known in what form the nitrogen is retained. Before and tention. Garrod has endeavored to explain gout by a diminished excretion of uric acid, Ebstein by an increased formation, and Pfeiffer by an increased production together with something else. Reliable analyses have shown that the excretion of uric acid on the gouty varies within normal limits. For a long time uric acid was looked upon as an incomplete oxidation product; now it is generally believed that it is derived during the attack of gout a nitrogen deficit accompanies the nitrogen from nuclein and the alloxan group. Feeding with nuclein or with thymus has been shown to increase greatly the excretion of uric acid. Uric acid arises through the oxidation of the alloxan group. (1) Cells perishing in the body yield nuclein from which uric acid is derived. (2) Uric acid is also derived from the alloxan group supplied such as thein, caffeine, etc. (3) In the gouty, deposits of uric acid may be dissolved, and so increase the excretion of uric acid. It is very difficult to estimate the last-named factor. As

regards the second, feeding with pure nuclein and thymus show that about one-fifth of the alloxan bases thus supplied are oxidized into uric acid and the other four-fifths disappear in the body. The latter may be built up into nuclein, or the alloxan bodies may be split up in the alimentary canal. Another, and the most probable, view is that the bases are absorbed and are converted into uric acid, which latter if not excreted by the kidney is changed into urea. It is impossible yet to say whether the uric acid formation is increased or diminished in gout. In a gouty patient fed with thymus the excretion of uric acid was increased from 0.5 to 1.3 g.; this would show that the richness of the blood in uric acid was due to increased formation. This increased formation would appear to be due to increased cell destruction. Pfeiffer and others have shown that during the attack of gout an increased amount of uric acid is excreted. The necrotic processes described by Ebstein will explain the cell destruction with escape of nuclein as mentioned above. The cause of these necrotic processes is as yet unknown. The author would look upon them as caused by the retained nitrogenous metabolic products. The questions remaining to be solved are (1) What substances are retained in the body in gout? and (2) under what conditions are they retained?

—Centralf. f. inn. Med., Oct. 22, 1898.

#### POST-EPILEPTIC ALBUMINURIA.

Galante has examined the urine of sixteen epileptics (fourteen male and two female) free from cardiac or vascular lesions, with a view to determining the presence or absence of albuminuria after an attack. The urine was withdrawn by catheter immediately after an attack, and the albumen estimated quantitatively by Scheier's method. In every case albumen was found, varying from 2.04 g. to 0.25 g. per cent. In two cases, after very violent attacks, a few hyaline casts were seen. The albuminuria lasted from four to twelve hours. If there had been pre-existent albuminuria the amount was always increased after a fit. There was a con-

stant relation between the amount of albumen and the amount of indican observed in the urine. Assuming that albuminuria is due to some renal epithelial change of a temporary and fugitive nature in epilepsy, the author points out several factors in the epileptic attack likely to induce such changes in the renal epithelium—for example, the circulatory disturbances caused by the convulsive spasm of the thorax, the increase in autotoxins found in the blood, the intense muscular work done in the fit, and lastly the concentration of the urine from excessive perspiration.

—Rif. Med., April 26 and 27, 1898.

#### CASSARIPE IN INFECTIOUS DISEASES OF THE EYE.

S. D. Risley has had his attention called by H. B. Chandler, of Boston, to "cassaripe," which is described as the inspissated juice of the cassada, which is highly antiseptic, and forms the basis of the West India preservative pepper pot. The cassava belongs to the euphorbiaceae or spurge family, and is extensively cultivated in tropical America and the West Indies for the large, fleshy root, which contains an abundance of farina. In preparing cassava bread a milky, poisonous juice exudes. This juice is concentrated to a semi-solid known as "cassaripe," heat destroying its poisonous properties. It is a powerful antiseptic, a solution poured over meat seeming to preserve it indefinitely. Chandler, who has used it in a 10 per cent. ointment, says that in large, sloughing, corneal ulcers in old persons it has given him more satisfaction than anything he has ever used. Risley has also used it as a 10 per cent. ointment in cases of corneal ulcer and infectious diseases of the eye, but as it causes no irritations, he sees no objection to its being employed in much stronger preparations. The ointment was applied freely between the lids, and the eye subjected to massage so as to distribute it thoroughly into the retrotarsal folds, and in the corneal cases a protecting bandage was applied. When the patients are in hospital this was repeated three times daily; in out-

patients it was done morning and evening. No other treatment was employed except that atropine was used and a wash of boric acid was applied. In a few minutes after the application of the ointment in new cases the discomfort was much diminished, and the improvement was usually rapid as compared with other forms of treatment. In a case of ophthalmia neonatorum the eye was thoroughly cleansed, the ointment of cassaripe applied, and a supply given to be used three times daily at home after the usual wash. In two days the purulent discharge had entirely ceased. Risley concludes that his observation seems to show that cassaripe is a powerful vegetable antiseptic, which promises to be a useful addition to our means of treating infectious forms of ocular disease.

—Phil. Med. Journ., October 29.

#### PROTECTIVE ACTION OF THE LIVER AGAINST MICROBES.

Roger describes his recent results on the subject (Paris Society of Biology). In 1897 he found that certain cultures of anthrax bacillus introduced into a branch of the portal vein did not kill rabbits, whereas cultures of the same virulence injected into other blood vessels did cause death. He then found that the lungs possessed a protective action against the streptococcus, whilst the liver possesses none. The staphylococcus aureus grows rapidly in the brain, but, like the anthrax bacillus, is destroyed by the liver. The liver seems to be powerless against bacillus coli, and even to favor the growth of this microbe. Both liver and kidney arrest the growth of oidium albicans. Recently Roger has made further experiments on rabbits to determine what conditions modify the protective action of the liver. This protective action is less marked when the animal is kept without food, but remains observable even after three days of fast-

ing. If 3-4 c. cm. of a sterilized culture of bacillus prodigiosus is injected into an intestinal vein the liver loses all its protective power against staphylococcus aureus. Large doses of glucose—given by the mouth—weakens the protective power of the liver, whereas small doses increase it. The effect of ether is most striking. Five drops of ether injected into the portal vein, or 2 c. cm. given by the mouth, abolish the protective action of the liver, whereas small doses by the mouth—2 or 3 c. cm. of a solution of ether in alcohol and water—increase it. When the ether is injected subcutaneously its effect is much less marked. Perhaps the beneficial action of potions containing ether, in the case of patients with infectious diseases, may be explained on the supposition that dilute doses of ether given in this way increase the protective action of the hepatic cells against certain microbes.

—Sem. Med., October 19, 1898.

#### A CASE OF TRADE PARALYSIS.

Ch. Fere points out that while trade spasms are comparatively common, trade paralyses are much less so. He narrates the case of a girl, aged 14, a tapestry worker, whose work necessitated her keeping the right arm constantly elevated and abducted. After twelve days of this work signs of paralysis began to appear in the right arm, and soon became complete. There was no anesthesia of the affected limb, and no evidence that the girl was hysterical. Under massage and electricity the patient recovered. It is to be noted that the paralysis affected the whole arm, and not simply the group of muscles concerned in the trade movement, in this respect differing from trade spasms. There was also idiosyncratic contraction of the paralyzed side; this Fere looked upon as a reaction of muscular debility, such as is seen in exhausted cyclists.

—Belg. Med., September 15, 1898.





CLINICAL SURGERY AND SURGICAL PATHOLOGY.  
In Charge of T. H. MANLEY, M. D., New York.

### THE EFFECT OF BURNS ON THE COELIAC PLEXUS.

Korolenko reports a case of Ous-koff's in which a man, who had extensive scalds, mostly of the third, but partly of the second degree, died a day and a half later, and a microscopic examination of the solar plexus revealed the following changes: All the ganglion cells were shriveled and retracted from their capsules, the protoplasm was uniformly hyaline and strongly stained; the nuclei were invisible or ellipsoid masses without a trace of chromogenic structure. Since then he has observed two other cases where post-mortem similar changes were found. A summary of the various views as to the cause of death after burns is given, and the author remarks that they agree in one point only—namely, that death occurring within two days of the accident is always due to shock. He has therefore investigated the changes found in the coeliac plexus experimentally by producing scalds on the abdomen of rabbits by a jet of steam at different temperatures acting for a varying time. Unless the animal died rapidly the coeliac plexus was excised while it was still living at different periods after the scald. Their morbid histology is described in detail, but briefly the process is either (1) a coagulation of the ganglion cells, with retraction of the protoplasm from their capsules, which corresponds essentially to the changes found post-mortem in Ous-koff's case, and is found only after severe scalds, or (2) edema of the cells with less retraction of protoplasm found only after slighter lesions. Examination of the plexus after removal at different dates after the injury proves that there is a tendency for the altered cells to recover their normal

characters (by imbibition of the separated paraplasma). Thus in edema the cells may be again quite normal by the fifth day, and even in coagulation the number of affected cells is obviously less on the sixth day (if the animal lives), which points to the possibility of a *restitutio ad integrum*. These ganglionic changes are chiefly of a reflex nature, for they could not be produced by the high temperatures acting directly on the ganglion through the thin abdominal walls, because (1) the temperature close to the coeliac plexus was the same, or nearly so, after the scalding as it was just before, and (2) the same results were obtained when the scalds were made on distant parts, such as the hind legs. The burns may act on the cells either (1) by a purely nervous stimulus, (2) by disturbing the circulation, or even causing its complete arrest. The possibility of the former is proved by the recent work of those who have produced changes, not unlike those described here, in the spinal cells by stimulating an afferent nerve electrically, or even mechanically; of the latter, by the abnormal anemia of all the ganglions examined after extensive scalds followed by rapid death. In slight scalds, however, the ganglions, when excised, even as soon as half an hour afterwards, were extremely vascular. Considering all the facts, the author concludes that in severe cutaneous burns the cells of the solar plexus are first stimulated reflexly. This stimulus then passes out to the abdominal circulatory system, in which it produces spasm of the vessels, including the nutrient vessels of the plexus itself, so that its nerve cells are stimulated on the one hand and on the other suffer in their nutrition. In less severe cases the initial stimulus lasts for a shorter time, and

on its ceasing is succeeded by a dilatation of the vessels, which may last several days, and is one of the factors in producing the pathological changes in the abdominal viscera found when death after burns has been delayed some time. In cases of rapid death after burns the influence of the solar plexus on the heart complicates the question.

—Archives des Sci. Biol. de l'Institut Imp. de Med. Exper. a St. Petersbourg, Tome vi, No. 3, 1898.

#### THE OPERATIVE TREATMENT OF GOITRE.

Kocher publishes the results of 600 cases in which thyroidectomy has been performed at Bern in the course of the past three and a half years. Of these cases 450 were treated by the author himself and the remaining 150 by his assistants. This is an additional report to one of 1000 cases published early in 1895. In accounting for the large number of thyroidectomies performed for the removal of goitre since February, 1895, Kocher asserts that thyroid extract is not more effectual than iodine as an internal agent, and that consequently the use of the former in the treatment of goitre has not diminished the proportion of cases needing operative interference. Thyroidectomy, which in Kocher's practice has been found an almost absolutely safe operation in uncomplicated cases of simple goitre, is held to be indicated by excessive development of nodular growths in the thyroid gland, in all instances of cystic disease, and whenever there is a suspicion—however slight this may be—of malignancy. The chief indication is dyspnea due to compression and consequent stenosis of the trachea, a condition which cannot be remedied or even relieved by medicinal treatment. As the most serious, and, in uncomplicated cases of goitre, the only danger attending thyroidectomy is the fatal action of a general anesthetic, Kocher during the last two years has used cocaine locally on all patients submitted to this operation, with the exception of young children and very nervous or sensitive subjects. The following are dwelt upon as important points in the author's

method of performing thyroidectomy: A curved skin incision across the front of the neck, the convexity of the curve being downwards; the sterno-hyoid and sterno-thyroid muscles are detached at their lower extremities from the sternum, and not divided high up in the neck, whilst the omo-hyoid is left intact; the enlarged gland after division of its fibrous capsule is raised from the trachea and drawn out of the wound, so that the thyroid vessels are put on the stretch and freely exposed before the application of ligatures; the isthmus after its exposure, and after ligation of the vessels running transversely along its upper and lower borders, is forcibly compressed by forceps, so that the colloid material is forced out, and the isthmus is reduced to a narrow fibrous band. Since 1883, when it had been proved by both surgical and pathological experiences that total removal of the thyroid gland is certain to result in the development of the condition called *cachexia strumipriva*, Kocher has not, except in case of absolute necessity, performed a complete thyroidectomy. Since he has attended to this rule, and has endeavored even in the most unfavorable cases to save some portion, however small, of the diseased gland, he has met with *cachexia strumipriva* in four cases only out of 1500 in which thyroidectomy had been practiced. In the rare cases in which it may be found necessary to remove the whole of the gland, the threatening *cachexia* may be averted by the administration of thyroid extract. The series of 600 cases with which this paper deals includes 18 cases of malignant goitre, 11 cases of strumitis, and 15 cases of Basedow's disease. In six of the 18 cases of malignant disease thyroidectomy had fatal results. The operation was also fatal in two of the 11 cases of strumitis, and in two of the 15 cases of Basedow's disease. Of the remaining 556 cases in which thyroidectomy had been performed for the removal of ordinary colloid goitre, one only was fatal, and in this single case death was the result not of the operation itself, but of the action of chloroform. The high

deathrate after thyroidectomy for malignant goitre is due, Kocher states, to the complicated nature of such cases and the frequent necessity for removing portions of the trachea and oesophagus, and also of such important parts as the internal jugular vein, the common carotid artery, and the spinal accessory, pneumogastric, and sympathetic nerves. The dangers attending excision of the thyroid gland in cases of strumitis and of Basedow's disease are attributed in the former to suppuration of the diseased gland and septic infection, and in the latter to the faulty general condition of the patient.

—Correspondenzblatt fur Schweizer Aerzte, No. 18, 1898.

#### SEVERE FLOODING IN NEW-BORN CHILDREN.

Doleris records a kind of epidemic of this affection in his wards at the Hopital Boucicaut. Five new-born infants were seized with bleeding from the vulva, as well as hemorrhages from other parts, especially the navel and skin. Great debility without fever accompanied these symptoms. Two died in the wards, one died after discharge, one was lost sight of after discharge, whilst one only recovered after careful treatment in the hospital. A good summary is given of previous cases related by other authors, followed by a complete report of Doleris' own cases. The results, especially of the bacteriology of the patients, were admittedly negative. Nor could Doleris, in spite of the most careful scrutiny, detect the origin of the epidemic of genital bleeding. All the mothers were healthy, all suckled the patients in question and were free from sore nipples. The patients were washed in running warm water, with sterilized wool, under the superintendence of the midwives. The discussion on these cases did not bring to light any positive results. Bar had observed 15 or 16 cases in Paris hospitals. These were mostly, he declared, due to infection. Loviot was of the same opinion; he noticed that the breasts of the mother or the umbilicus of the patient might be at

fault. Charpentier had seen milder cases, where three or four attacks precisely resembling flooding or menorrhagia occurred in newborn female infants, recovery following. In two well-nourished male infants severe intestinal hemorrhages occurred, but both recovered.

—Bull. et Mem. de la Soc. Obstet. de Paris, May 12, 1898.

#### IMPLANTATION OF BONE IN THE CRANIUM.

Valan has conducted a series of experiments on the skulls of animals with the view of determining what happens to the disc of bone transplanted in the hole made by the trephine. According to one school the transplanted disc is entirely necrosed and absorbed, and its place taken by newly-formed bone; others say that the transplanted disc does not die but lives. The author takes a position midway between these two opposing schools. He finds that the implanted bones undergo necrosis in the central parts, but that there is a more or less extensive zone at the periphery which preserves its vitality, and becomes incorporated with the newly-formed bone. The extent of this peripheral area is closely related to the youth of the subject and the slenderness of the cranium—the younger the subject and the thinner the skull, the greater the peripheral area of retained vitality in the implanted bone. The rapidity with which the dead parts of the bone become absorbed and the new bone formed is closely related to the youth of the subject and to the sponginess of the bone. Experiments with decalcified and with calcined bone clearly showed the greater advantage of the latter in the formation of strong bony tissue. The experiments are described in detail, and there are excellent lithographic reproductions of the histological appearances at different stages.

—Archiv. per le Scienze Mediche, vol. xxii, No. 19.

#### APPENDICITIS.

Richardson and Brewster give the results of personal observations and treatment of 750 cases of appendicitis.

Out of 464 acute cases, 284 were operated on, with 63 deaths, or a mortality of 21 per cent.; 149 cases recovered without operation, and 31 were moribund when first seen by the authors; 151 cases were operated on in the "interval"—that is, after acute attack—all of which recovered. The authors draw attention to the danger of converting a local into general infection of the peritoneum, which is responsible for many deaths. General infection may occur in the first twelve hours, but is commonest on the third or fourth day. Since cases of similar severity and similar local signs recover sometimes without operation, the question of operative interference on the third or fourth day should be carefully considered. Three areas of infection are described: (1) Thick pus round the perforated appendix; (2) local peritonitis adjacent to the above, with yellow or greenish pus enclosed in adhesions, not surrounding the appendix but in direct contact with it at some point; (3) clear or opaque serum in the peritoneal cavity. Cultures of the fluids will show whether they are infected or not. The course of the infection is by direct contamination, although the different fluids are apparently shut off from each other by adhesions. Operative success depends on restraining the infection within moderate limits. Harrington's method of operating by a median incision, surrounding the infected area with gauze packing, and then draining and disinfecting is recommended. Local abscesses of a week or more duration all recovered with simple drainage. Cases of appendectomy for gangrene and perforation usually recovered if the lesion was small and localized. Many cases recovered with general infection, and some after contamination during operation. In many cases where an abscess was only drained there was evidence of gangrene of the appendix, and in some subsequent operation showed the appendix still virulent. Fæcal fistula often followed removal of the appendix, but generally healed spontaneously. The question of operation is often difficult,

because when the case is seen by the surgeon the conditions favorable to operation have often gone by. A patient in whom a severe attack is subsiding should not be operated on so long as symptoms improve, but increasing gravity of symptoms indicates operation. Cases seen at the beginning when local and general symptoms are severe should be explored. Statistics on this point are not convincing. Out of 180 cases treated medically 31 died, or 17 per cent., a lower mortality than after operation for acute cases; but some of the 31 might have recovered by operation. On the other hand, out of the 63 fatal cases recorded above some might have recovered under medical treatment only. The authors conclude that if all cases were seen by the surgeon on the first or second day, every fatal case would have been operated on at the time most favorable for cure. The authors quote three cases of acute cholecystitis which were mistaken for appendicitis. The efficacy and safety of operations in the interval between attacks have often been shown, and receive further support from the 151 cases operated on without a death.

#### MOSQUITOES AND MALARIA.

We learn on trustworthy authority that the Italian investigators have once again succeeded in conveying to man malarial infection by means of mosquito bites. The parasite in this instance was the benign tertian; the mosquito employed was the same as that which has already proved an efficient transmitter of the malignant tertian parasite—namely, *anopheles claviger*. In this second successful experiment the mosquitos were brought from a distance from a notoriously malarial spot, and liberated on the subject of the experiment in Rome. The investigators referred to have not discovered Ross's "germinal rods" in mosquitos purposely fed on crescent-containing blood. We hear, however, that they have found these rods in mosquitos brought from a distance from houses in which there had been malarial fever cases.

PUBLISHER'S MISCELLANY.

THE USE AND EFFECTS OF  
MANGANIFEROUS IRON  
PEPTONE.

(By Dr. Julius Heitzmann, Vienna.)

The employment of iron preparations both in essential anaemia (chlorosis), and in the symptomatic forms of this affection produced by severe losses of blood, dates from the earliest times. Long before the chemical relation of this effect was known, these remedies were administered on the ground of pure empirical experience.

When Hannon pointed out the high significance of manganese, as well as of iron, with regard to the absorption of oxygen by the blood, and when this discovery was confirmed by Ruehle, efforts were made to produce, by combination of both remedies, preparations which would best fulfill the therapeutic indications in all directions.

Former attempts of this kind failed to give the desired results. The aim was to combine both metals in such a form as would enable them to be absorbed throughout the entire extent of the alimentary canal, and at the same time be devoid of disagreeable taste which would prevent their prolonged administration. After a series of experiments made in this direction I found in the preparation discovered by Dr. A. Gude (Pepto-Mangan—Gude), a remedy which fulfilled the above requisites, and can recommend it most heartily.

Pepto-Mangan—Gude is a clear, dark, wine-red fluid, having an agreeable, non-metallic, astringent taste. The latter property gives it a great advantage over other similar preparations, for the remedy is always taken with pleasure, and may therefore be administered for a long time without exciting the disgust of the patient. No irritation of the stomach is pro-

duced, nor is the digestion disturbed in the least respect; indeed, as regards the latter, a stimulation of the long-absent appetite could be demonstrated within a short time.

The Pepto-Mangan—Gude, usually mixed with some water, is prescribed in doses of two or three dessertspoonfuls, increased to as many tablespoonfuls per day. An especially agreeable manner of administration is by addition of cold milk, which then assumes a light chocolate color and an agreeable taste. Prescribed in this form we obtain from this preparation everything that could be expected from a remedy for anaemia. The Pepto-Mangan—Gude may also be mixed with white and sweet wines, excepting the red wines which contain tannic acid, and an occasional change in the manner of administering is sometimes of advantage, especially in the case of children.

The diet, during the use of this preparation, should consist of milk, meats—especially ham—fowl, soft-boiled eggs, and other easily-digested foods. On the other hand, sour and fatty foods, red wines, and raw fruits are to be avoided.

The remedy is to be administered for a number of weeks, especially in cases of chlorosis, but in the case of young girls up to 12 years of age it is best to commence with a daily dose of two teaspoonfuls (ten grammes). In adults the dose of the Pepto-Mangan—Gude may be increased in a few days to one tablespoonful twice or thrice daily, or even to ten or twenty grammes. The preparation should be well protected from the light, and preserved in a cool place in a well-stopped bottle.

I have employed the Pepto-Mangan—Gude with much success both in chlorosis and in cases of anaemia in

girls and women due to loss of blood, menorrhagia, metrorrhagia, inflammation of the pelvic organs, peri- and parametritis, or prolonged leucorrhœa. In almost every instance I observed within a short time increase of appetite, improved nutrition, healthier color of the face, and increase of weight. I was surprised to learn how much more rapidly the Pepto-Mangan—Gude was taken than similar preparations, without ill effects even after protracted use.

To illustrate my remarks I will cite a few cases:

I will first report a case of chlorosis treated with this remedy, which was under constant observation. The patient, a school girl aged 16, began to menstruate one year ago, but after appearing regularly for three periods the flow suddenly ceased, probably in consequence of mental overexertion, and symptoms of chlorosis soon developed. The various preparations of iron were tried, but were either not well borne or excited so much disgust that they were discontinued by the capricious patient. A milk cure was prescribed, but followed for only a short time. When, however, I resorted to Pepto-Mangan—Gude I was surprised to find that the girl took it willingly and that it was well borne. She made a rapid recovery, and after the use of two bottles had regained her former healthy color, while her strength and menstruation returned.

Case II.—A married lady, aged 24, had acquired—apparently of abortion at a very early period—an intense peri-and parametritis with an exudation of the size of a child's head. The latter disappeared almost completely under suitable treatment and rest, so that only a slight induration was present in the parametrium after three weeks. Owing to the considerable anaemia and loss of appetite, however, the patient recovered very slowly, and for this reason I ordered Pepto-Mangan—Gude. A few days after its use the appetite reappeared, recovery ensued rapidly, and five weeks later her health was completely restored.

Case III.—A married lady, aged 30,

had suffered from leucorrhœa, due to catarrhal inflammation of the vagina, for two years, and although the local trouble had been much relieved, she continued pale and weak. As her chlorotic daughter at the time was taking Pepto Mangan—Gude with marked benefit, I advised her also to try this preparation. She followed my advice, and after fourteen days the weak, sluggish, and pale woman seemed as if transformed. She has since regained her former health.

These few cases, which were under continued observation, will confirm what has been said above regarding the manner of application and effect of the Pepto-Mangan—Gude. I regard it as superfluous to cite other cases, since a few closely observed cases teach more than a host of superficial observations.

On the ground of my experience I consider myself warranted in directing the attention of physicians to this remedy, and feel convinced that further trials will give equally favorable results. Even in cases where local treatment is necessary the Pepto-Mangan—Gude will prove a valuable auxiliary in our treatment.

—*Allgemeine Wiener medizinische Zeitung, xxxvi.*

#### A CHINESE MEDICAL JOURNAL.

Our Hong Kong correspondent writes: "The first number of a new magazine with the title 'A Monthly Journal of Medicine, Surgery, and Hygiene,' has just appeared. It is edited by Wan Tün Mo, a diplomat of the Imperial Medical College, Tien-sin, and Resident-Surgeon Alice Memorial Hospital, Hong Kong. The publication of this journal marks an epoch in the history of Western medical science in China. Slowly but surely the more enlightened Chinese are becoming convinced of the superiority of Western methods of medicine, surgery and hygiene.

—*British Med. Journal.*

## NASAL CATARRH.

Dr. T. Pickles, Anna, Ill., writes to the editor of "The Medical Summary" the following therapeutic results from actual experience:

For sore nose, nasal catarrh, etc., I have used Unguentine for the past three years, and have yet to see the case, where I have used it, that was not cured within a reasonable time.

In cases where dry scabs or scales form in the nose, I order to give, say a half ounce of Unguentine, make a small mop with a small roll of absorbent cotton on the end of a small stick, roll the mop in the Unguentine and apply well up both nostrils, at the same time have the patient to snuff the nose until the Unguentine can be plainly tasted. Use only once a day, just before retiring for the night. This generally cures within three weeks.

## A MOST VALUABLE HYPNOTIC.

As an example of the remarkably efficient action of trional in producing sleep, the following personal observation by Dr. Woodward, consulting physician, Worcester Dispensary, England, will prove of interest: "I took 20 grains of hot water at bedtime, and in a very short time it produced a good, dreamless, refreshing sleep of five or six hours' duration. There were no ill after-effects and the influence of trional passed off more rapidly than that of sulfonal, which I had taken a few nights previously. In my case, thional certainly proved itself a most valuable hypnotic. On repeating the dose two or three nights later, I found it acted in an equally good manner, and I have not had occasion so far to take it again. I have no doubt it possesses all the qualities claimed for it."

## HAGEE'S CORDIAL OF COD LIVER OIL COMPOUND.

BY JOS. R. CLAUSEN, A.M., M. D.

I have used Hagee's Cordial of Cod Liver Oil Compound in my practice for some time past, and unhesitatingly pronounce it among the very best of tonics, reconstructives and digestives within the reach of the general practitioner. I cannot recall a case, where I have prescribed it when the effects resulting was not immediate and satisfactory. I have yet to find a stomach that would not retain it, and where it has not assisted in the retention and digestion of other nutrititives.

I have used it in advanced stages of consumption with the best results, and in other affections of the air passages and lungs and can trace absolute cures to its use alone. I have prescribed it in connection with other remedies in the treatment of rheumatism with the most gratifying results, and have found it a safe reliance in all cases of nervous prostration and general debility.

I recall one case in which the results following its use were little short of miraculous. The patient was a man of thirty-five years of age, and when I was called in his case presented all conditions of incipient consumption. Through disease, overwork and neglect of himself his system had been completely shattered. He was reduced to almost a skeleton; was troubled with a cough, had hectic flushes and his digestive organs were badly impaired. After taking four bottles of the Compound the cough left him, his appetite returned, he began to gain strength and to take on flesh. He is now attending to his business as usual, and assures me he never felt better.

While the effects in his case are the most remarkable I have to record, the results in several other cases are but little less astonishing, and I most heartily endorse Hagee's Cordial of Cod Liver Oil Compound.

